image maker

SOPRO 717 First

USER MANUAL

SOPRO

ACTEON Imaging

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1 FOREWORD

Congratulations on your purchase of SOPROLIFE
To optimize the use of this device, whilst taking all the necessary precautions, we recommended you read carefully and follow the owner's manual.

Please carefully consider the messages "CAUTION", "WARNING", and "NOTE" when using the system.

⚠ **CAUTION:** the term CAUTION describes potential incidents likely to jeopardize safety.

WARNING: the term WARNING refers to the incidents likely to disturb the smooth running of the imaging system.

NOTE: the term NOTE highlights particular points in order to facilitate the system maintenance or to clarify important information.

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DENTAL CAMERA INTRODUCTION

It is an extra- and intra-oral camera designed for dental applications. It allows the user to see anatomical and pathological details that cannot be seen with the naked eye, as well as pathology control and post-treatment.

This camera is composed of a handpiece (SOPRO 717 First), a connection box (DOCK M_USB2, DOCK USB2 or DOCK MU_USB2), and various accessories necessary for it to work.

SOPRO 717 First
- 1 handpiece integrating the camera electronics and lighting.
- 1 handpiece holder.
- 10 dental barriers.
- Owner's manual.
- Imaging software (demo version).

DOCK M_USB2
- Connection box with integrated image memory and USB2 digital output.
- Power supply.
- 2.5 metre cable to connect the handpiece to the connection box (5 metres and 7 metres -optional).
- S-Video Y/C cable
- RCA video cable.
- USB cable.

DOCK USB2
- USB2 connection box with a 3.5 meters connecting cable.

DOCK MU_USB2
- Connection box with integrated image memory and USB2 digital output.
- 2.5 metre cable to connect the handpiece to the connection box (5 metres and 7 metres - optional).
- Installation manual.

This device was packaged in a custom carton. This carton should be kept for possible transportation. We provide a small quantity of complimentary dental barriers necessary for the intra-oral use of the camera. For more details about purchasing these products, please refer to our catalogue or contact our commercial service.

NOTE:
The device was designed and developed with its accessories in order to guarantee maximum performance and safety to you. The use of different origin accessories can represent a risk for you, your patients and your device.

3

SAFETY INSTRUCTIONS

• Do not expose the dental camera to liquid spray and do not store it in a humid environment (electrocution risk).
• When handling camera always take the appropriate hygiene measures and precautions in order to prevent cross contamination risks.
• Infection control procedures must be observed when using accessories such as dental barriers in order to prevent cross contamination risk from one patient to another.
• Install the dental camera in a clean, dry, and well-ventilated place.
• Disconnect the camera from the power supply if you are not going to use it for several days. Do not pull on the cable.
• Never compress or nip the handpiece cable.
• Never expose the product to high vibrations.
• Do not drop the camera.
• In no way should this camera should be immersed in any liquid, nor should it be autoclaved.
• For each new patient, it is essential to use the dental barriers provided with the camera or provided as a compliment. Before using the camera, make sure it does not have any sharp edges.
• The surface temperature in the light emission area can be just above 41°C (after several minutes of using it), so avoid maintaining this emission area in contact with the patient's mouth.
• The SOPRO 717 First camera is a product using class II LEDs according to IEC 60825. To avoid any ocular risks, do not stare directly at the LED's.

NOTE:
If the hygienic protection is torn while examining a patient or if the handpiece was "infected" while withdrawing the hygienic protector, it is essential to totally disinfect the handpiece. In order to do this: please refer to the maintenance chapter.

4

REGULATORY REQUIREMENTS

4.1. COMPLIANCE WITH STANDARDS AND REGULATIONS

This product was designed and manufactured by a company having an authorized quality system. It meets the European directive 93/42/EEC requirements relative to medical devices. Therefore, it particularly meets electrical safety and electromagnetic compatibility standards (IEC) (CEM).

4.2. ELECTROMAGNETIC INTERFERENCE AND ELECTROSTATIC DISCHARGES

Electromagnetic compatibility (CEM) is the ability of electronic device elements to correctly interact in an electronic environment. Although this dental camera system was designed according to this compatibility and complies with the electromagnetic interference thresholds established by the regulatory agency, there is no guarantee about interference likely to occur on a particular installation.

If the device generates interference with radio communication services (which can be determined by switching it off and on), the user is recommended to try to correct this phenomenon by taking whole or part of the following measures:

- Change the receiving antenna orientation
- Reposition the product according to the receiver.
- Take the computer away from the receiver.

The SOPRO 717 First camera is designed and tested to be used in a home environment, class B Group 1, according to CISPR11 standard.

4.3. MEDICAL DEVICE VIGILANCE

As any medical device, this device is subjected to the medical device vigilance dispositions; any serious dysfunction should then be the subject of a description to the competent authorities and to the manufacturer as soon as possible and as precisely as possible.

4.4. END OF LIFE

This device bears the recycling symbol according to the European directive 2002/96/EC about electric and electronic equipment waste (DEEE or WEEE). By correctly disposing of this device, you will contribute to avoiding any damage to the environment and human health.
The symbol present on the device or on the accompanying documentation indicates this product cannot be, in any case, treated as household waste. Therefore, it should be transferred to a waste collection center that handles electric and electronic equipment recycling.
Respect the standards relative to waste disposal in force in the installation country. For more details about the

device treatment, recuperation and recycling, please contact your dental device distributor (or failing that, the group ACTEON site), so that you can be informed of the procedure.

4.5. ELECTROMAGNETIC COMPTABILITY

Guide and declaration of the manufacturer - electromagnetic emissions		
SOPRO device is intended to be used in the electromagnetic environment specified below. The user should make sure it is used in this environment.		
Emission trial	**Compliance**	**Electromagnetic environment - Guide**
RF emissions CISPR 11	Group 1	SOPRO device only uses radio energy for its internal functions. Therefore, its RF emissions are very low and are unlikely to cause interference with nearby electronic devices.
RF emissions CISPR 11	Class B	SOPRO device may be used in all domestic environments, including the ones directly connected to the public low voltage power distribution network used to supply household buildings.
Harmonic emissions EN 61000-3-2	Not applicable	
Voltage fluctuations / Flicker EN 61000-3-3	Applicable	

Guide and declaration of the manufacturer - electromagnetic immunity			
SOPRO device is intended to be used in the electromagnetic environment specified below. The user should make sure it is used in this environment.			
Immunity trial	**CEI 60601 Severity level**	**Compliance level**	**Electromagnetic environment Guide**
Electrostatic discharges EN 61000-4-2	± 6 kV when in contact ± 8 kV in the air	± 6 kV ± 8 kV	The floor should be wooden, concrete or tile. If the floor is covered with a synthetic material, the relative humidity should be at least 30%.
Far transient bursts EN 61000-4-4	± 2 kV for the feed cables ± 1 kV for the input/output cables	± 2 kV ± 1 kV	The main power supply quality should be one of a traditional commercial or hospital environment.
Voltage shocks EN 61000-4-5	Differential mode ± 1 kV Common mode ± 2 kV	± 1 kV N.A.	The main power supply quality should be one of a traditional commercial or hospital environment.
Dips, brief outages and power voltage variation EN 61000-4-11	• <5% U_T - for 10 ms • 40% U_T - for 100 ms • 70% U_T - for 500 ms • <5% U_T - for 5 s	<5% U_T 10 ms <40% U_T 100 ms <70% U_T 500 ms <5% U_T 5 s	The main power supply quality should be one of a traditional commercial or hospital environment. If the user of SOPRO device requires it to continue to operate during main power supply outages, it is recommended SOPRO device is fed by an inverter or a battery.
Magnetic field with the network frequency (50/60 Hz)	3 A/m	3 A/m	The magnetic field with the network frequency should be at a characteristic level of a location in a traditional commercial or hospital environment.
Note: U_T is the power voltage nominal value applied during the trial.			

Guide and declaration of the manufacturer - electromagnetic immunity			
SOPRO device is intended to be used in the electromagnetic environment specified below. The user should make sure it is used in this environment.			
Immunity trial	**CEI 60601 Severity level**	**Compliance level**	**Electromagnetic environment Guide**
Conducted RF EN 61000-4-6	3 Vrms 150 kHz to 80 MHz	3V	Portable and mobile RF communication devices should not be used at a distance from SOPRO device including the cables, lower than the recommended separation distance, calculated with the applicable formulas depending on the emitter frequency. **Recommended separation distance** $d = 1,16 \sqrt{P}$
Radiated RF EN 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3V/m	$d = 1,16 \sqrt{P}$ 80 MHz to 800 MHz $d = 2,33 \sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum rated output of the transmitter in watts (W) by the transmitter manufacturer and d the recommended separation distance in metres (m). The field levels emitted by the fixed RF transmitters, determined by an electromagnetic measurement of the site[a], should be lower than the compliance level in each frequency band. Interference may occur in the vicinity of the devices bearing the following symbol:

Note 1: At 80 MHz and 800 MHz, the higher frequency band applies.

Note 2: These recommendations may not apply in every situation. Electromagnetic wave propagation is modified by the absorption and reflection due to the structures, objects and persons.

a The fixed transmitter field levels, such as the base stations of the radio telephones (cellular/wireless) and the terrestrial mobile radios, domestic radio, AM, FM, and TV radio communication cannot be theoretically assessed precisely. To obtain the electromagnetic environment due to the fixed RF transmitters, a site measurement should be performed. If a field level measured in the use environment of SOPRO device exceeds the compliance levels above applicable, the good operation of SOPRO device should be checked. If abnormal operations are proved, some further measures should be taken, such as reorientation or relocation of the standard device.

b Above the 150 kHz to 80 MHz frequency band, the field level should be lower than 3 V/m.

Recommended separation distances between the portable and mobile RF communication devices and SOPRO device

SOPRO device is intended to be used in an electromagnetic environment in which the irradiated RF disturbances are checked. The user of SOPRO device can help to avoid electromagnetic interference by maintaining a minimal distance between the portable and mobile RF communication devices (transmitters) and the recommended SOPRO device such as recommended below, depending on the maximum output power of the communication device.

Rated maximal output power of the transmitterW	Separation distance depending on the transmitter frequency m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2,5 GHz
	d = 1.6 √P	d = 1.6 √P	d = 2.33 √P
0.01	0.116	0.116	0.233
0.1	0.366	0.366	0.736
1	1.16	1.16	2.33
10	3.66	3.66	7.36
100	11.6	11.6	23.3

For the transmitters whose maximal output is not listed above, the recommended separation distance d in metres (m) can be determined by using the equation applicable to the transmitter frequency, where P is the maximal output of the transmitter in watts (W) rated by the transmitter manufacturer.

Note 1: At 80 MHz and at 800 MHz, the separation distance given in the higher frequency band applies.

Note 2: These recommendations may not apply in every situation. The electromagnetic wave propagation is modified by absorption and reflection due to the structures, objects and persons.

5 INSTALLATION

5.1. CONNECTING

Fastening the handpiece holder:
1. Choose a smooth area that can be easily accessible for use.
2. Use the wipe provided to clean the surface on which you are going to fasten the holder.
3. Remove the double-sided adhesive tape protection that is on the support, place it, and then press it into place several times.

The maximum adhesive performance is obtained after two hours. So, avoid any stress on the holder during this two hour period.

WARNING:
This holder is equipped with magnets that can damage devices sensitive to magnetic fields. Make sure you do not install this holder near these devices (cathode ray tube video screen, magnetic videotapes, etc.).

5.2. FURTHER CONNECTION BOXES (OPTIONAL)

You can install a connection box near each dental chair (no limitation). You will just have to transport the handpiece from one chair to the other.
The handpiece holder is intended to maintain the connecting cable connector when the cable is not linked to the handpiece.
When you disconnect the handpiece connecting cable to take it to another chair (or when you put the handpiece on its holder), the last stored image displays on the screen* (or the last four if you were in four-image mode, or the color-bar pattern if no image was stored).
(* Except for the DOCK USB2)

5.3. FOCUSING ADJUSTMENT

On the handpiece, there is a rotating ring used to focus from “0” to infinite. To simplify handling, we have preset three positions corresponding to the main dental camera uses.

Extra-oral (Portrait).

 Intra-Oral (1 to 5 teeth).

Macro (details that cannot be seen with naked eye).

6 CONNECTING TO A VIDEO SCREEN

6.1. CONNECTION OF DOCK M_USB2

• Connect the video cable (preferably Y/C “S-video”) between the connection box and the monitor video input.
• Connect the connecting cable between the connection box and the handpiece.
• If you prefer using a footswitch rather than SoproTouch to freeze the image, you just have to connect the footswitch (optional) to the connection box. With this configuration, SoproTouch is inhibited.
• Connect the power supply to the outlet, and then to the connection box (the green indicator light should be on).
• Only use the power supply provided with the connection box.

6.2. CONNECTION OF DOCK MU_USB2

• Please refer to DOCK MU_USB2 integration manual for its connections.
• Connect the connecting cable to the handpiece.
• Connect the video cable (preferably Y/C “S-video”) between the connection box and the monitor video input.

6.3. OPERATION OF SOPROTOUCH IMAGE FREEZE ON SOPRO 717 FIRST

• When powering on, the camera automatically selects the single-image mode.
• To switch to four-image mode, press SoproTouch for more than three seconds (until a black flash appears on the screen or, if you have chosen to use a footswitch, press it for more than three seconds).
• Perform the same procedure to switch back to single-image mode.
• In single-image mode, you just have to slightly touch SoproTouch (or briefly press the footswitch once) as soon as the desired image appears on the monitor. The image is automatically stored in the camera and displayed on the screen. If you want to return to direct mode, you just have to slightly touch SoproTouch once more (or press the footswitch).
• Another little gentle touch on SoproTouch (or press on the footswitch) will freeze another image by deleting the previous one.
• In four-image mode, the image is stored in one of the quarters of the screen when you slightly touch SoproTouch (or press the footswitch) and remains displayed on the screen. Another little slight touch on SoproTouch (or press of the footswitch) will return the image to direct mode. A third little slight touch (or pressof the footswitch) will store a second image in another quarter of the screen and so on until four images are obtained.

7

CONNECTING TO A COMPUTER

7.1. REQUIRED CONFIGURATION FOR THE COMPUTER

To use the Sopro 717 First system, you must make sure the computer and its peripherals do not have any use limitation that could concern life safety. It should also meet the following requirements:

	Minimal configuration	Recommended configuration
Operating system	Windows 2000 Pro SP4 - XP Pro SP1	Windows XP Pro SP3 - VISTA Business SP1
Processor	Intel® Pentium III - 500 MHz	Intel® Core 2
Memory	512 MB	2 GB
Hard disk	20 GB	160 GB
USB ports	2 x USB2.0 Hi-Speed ports	4 x UB 2.0 Hi-Speed ports
Video board	Graphic board 32 MB of unshared video RAM compatible with DirectX 9	Graphic board with Nvidia chipset or exclusive video ATI / 256 MB of unshared video RAM compatible with DirectX 9 or higher.
USB Chipset	Intel ou NEC	Intel ou NEC
Screen resolution	1024 x 768	1024 x 768 or higher
Standard	IEC 60950	IEC 60601-1

7.2. DOCK M_USB2 CONNECTION

- Connect the USB cable between the connection box and one of the computer USB ports.
- Connect the connecting cable between the connection box and the handpiece.
- If you prefer using a footswitch rather than SoproTouch to freeze the image, you just have to connect the footswitch (optional) to the connection box. With this configuration, SoproTouch is inhibited.
- Connect the power supply to the outlet, and then, to the connection box (the green indicator light should be on).

7.3. DOCK MU_USB2 CONNECTION

- Refer to DOCK MU_USB 2 integration manual.
- Connect the connecting cable to the handpiece.
- Connect the USB cable between the connection box and one of the computer USB ports.

7.4. DOCK USB2 CONNECTION

• Connect the USB cable to one of the computer USB ports.
• Connect the connecting cable to the handpiece.

7.5. SOPRO IMAGING SOFTWARE INSTALLATION

•Insert the SOPRO Imaging CD-ROM into the driver. It will be executed automatically.

WARNING:
If the CD-ROM does not execute automatically or if the operating system is prior to Windows XP SP1, follow the following instructions:
- Go to the Start menu > Execute.
- Type D:\setup.exe (replace D by the letter of the CD-ROM driver).
- And then, click on OK. The file instantly executes. Then follow the steps from the below point.

• A dialog box opens - it is the main menu window allowing the installation of a certain number of programs related to SOPRO Imaging application.

NOTE:
Clicking on the key "Browse this CD-ROM" accesses a Windows browse window from which it is possible to consult the whole content of the CD-ROM. At the CD-ROM root, there are the files allowing an automatic launch and/or a manual setup.
- Located in the directory "Document" and its subdirectories are all the documents about the Sopro Imaging software, digital x-ray systems, intra oral cameras and SOPROLIFE system. These documents are in PDF format. Be sure to correctly install Acrobat Reader in case of reading difficulties.
- The Drivers directories contain the drivers necessary for the use of hardware accepted by SOPRO Imaging (Sopix system, SOPRO cameras in USB 1 and USB 2, Hasp protection key).
-The directory SOPRO Imaging contains the SOPRO Imaging installation program.
- The directory "Tools" contains

• Click on "Install SOPRO Imaging". A window displays; select the desired language during the installation process.

• A dialog box opens - it displays the software license to be entirely read to continue the installation. Once the terms are read, click on "Next".

• By default, the SOPRO Imaging software will automatically install in the directory "C:\Program Files\SOPRO Imaging". To start installing the software, click on "Next".

• Once the installation is completed, a dialog box displays. Click on "Finish".

! WARNING:

To obtain the best performance possible when using the SOPRO Imaging software, it is recommended to install DirectX 9.0c. In order to do this, click on the key "Install DirectX 9.0c" and then, follow the displayed instructions. DirectX 9.0c is a Microsoft® product. In case of difficulties when installing this product, consult the information provided by this editor. In order to ensure maximal compatibility with all the installed systems (computers, Windows, and word processing version) it was decided to provide the documents available on the CD-ROM in PDF format. This format developed by ADOBE® Company can be read with the Acrobat Reader service program.

If Acrobat Reader is not installed on the computer or the version is not recent enough, click on the key "Install Acrobat Reader" and then follow the instructions. Acrobat Reader is an ADOBE® product. In case of difficulties when installing this product, consult the information provided by this editor.

7.6. SOPRO IMAGING SOFTWARE CONFIGURATION WITH SOPRO 717 FIRST CAMERA

Refer to the SOPRO Imaging owner's manual that is on the SOPRO Imaging CD-ROM in the document directory.

8

DESCRIPTION OF THE CONNECTION BOXES

8.1. DOCK M_USB2 POWER SUPPLY

The dental camera power supply is connected to the power outlet. The other end of the cord is connected to the dock where the symbol 6 V ⎓ is located (PHIHONG, PSA 10R-060 Model or FRIWO, MPP15 FW 7555M/06 model). The power supply automatically adapts to the electric networks 115 V~ - 230 V~; 60 Hz - 50 Hz; 0.5 A. The camera voltage is powered by 6V⎓ of a continuous low voltage type.

8.2. DOCK MU_USB2 POWER SUPPLY

The electrical connection of this connection box should be performed by the installer. The dental camera power supply is performed through the connection box that should be connected 24 V~; 50 Hz - 60 Hz; 10 VA.

8.3. DOCK USB2 POWER SUPPLY

The dental camera electrical supply is directly performed through the computer USB port. The voltage powering the camera is of continuous 5 V ⎓ low voltage type (0.5 A).

8.4. VIDEO AND USB OUTPUTS

This camera has two independent video outputs* - a composite one and a Y/C “S-Video” one.
One of these two outputs should be connected to the monitor video input (preferably Y/C “S-Video”). According to the connection box used, this camera has a digital USB 2.0 output that can be connected to a computer USB2 port.
(* Except for the DOCK USB2)

8.5. FOOTSWITCH

The footswitch should be connected here * , if you have selected it to freeze the image.
(* Except for the DOCK USB2)

8.6. IDENTIFICATION

The indications born on the boxes identify the dental camera according to the international standards CEI 601- 1 and CEI 417.

Video output.

Handpiece connection.

Footswitch connection.

Continuous voltage.

USB2 output.

"BF type camera".

Caution, please consult the ACCOMPANYING DOCUMENTS.

Disposal of electric and electronic equipment marketed after 13/August/2005. This symbol indicates that the product cannot be treated as domestic waste.

For medical devices, this symbol is associated to the manufacturing year (expressed with four digits).

For medical devices, this symbol is associated to the manufacturer name and address.

Product compliance according to the European directive 93/42/EEC relative to medical devices.

Grounding.

The devices that connect to video or USB outputs should comply with IEC 60950 standard.

9 MAINTENANCE

The intra-oral camera does not need any maintenance if it is used according to the manufacturer's use and cleaning instructions.

Before first using it, it is imperative to follow the complete disinfecting procedure.

Any intra-oral camera returning from servicing or maintenance should be completely disinfected before being used.

WARNING :
Do not use products containing:
- *Ammoniac, trichloroethylene*
- *Dichloroethylene*
- *Ammonium hydrochlorid*
- *Chlorinated and aromatic hydrocarbon*
- *Ethylene dichloride*
- *Methylene chloride*
- *Ketones*

Using products containing these chemicals risk deterioration of plastic parts.

WARNING :
Do not directly spray disinfecting products on SOPRO products.

WARNING:
Infection control procedures must be observed when handling the camera or using accessories such as dental barriers; in order to prevent cross contamination risk from one patient to another.

9.1 HANDPIECE OR CONNECTION BOX MAINTENANCE

DESCRIPTION	RECOMMENDATIONS	USE INSTRUCTIONS AND PRECAUTIONS	
		✓	✗
Disinfecting.	Surface cleaning and disinfecting wipes e.g. Septol™ Wipes from Pierre Rolland.	✓Take the wipe, remove excess moisture, and then wipe the equipment until visible cleanliness is obtained. ✓Allow to dry in the open air. ✓Carefully close the packaging box.	✘ Do not scrub ✘ Do not rinse. ✘ Do not immerse in a disinfecting liquid.

NOTE :

In case of contact with blood or important soiling, it is strongly recommended to follow a disinfecting process. First of all, clean the handpiece with disinfecting wipes, then roll up several disinfecting wipes around the handpiece and leave on for 15 minutes.

10 AFTER-SALES SERVICE

10.1. WARRANTIES

SOPRO ensures its products to be free from material and manufacturing defects for a period of one (1) year coming into force at the purchase date. This warranty does not apply to misused, modified, untended, or accidentally damaged products, or products subject to abnormal use and handling conditions. The distributors, other than ACTEON Group's subsidiaries, are not authorized to apply a warranty more extended on behalf of SOPRO.

The entire liability of SOPRO is limited to its convenience when replacing or repairing, free of charge, the defective product if it has been sent to SOPRO After-Sales Service. This applies for the warranty period.

Outside of France, access to the warranty is only possible if the product was bought in one of the points of sale authorized by SOPRO in the country where it will be used.

THIS WARRANTY CONSTITUTES THE ONLY AND UNIQUE REMEDY. IT REPLACES ANY OTHER WARRANTY, FOR EXAMPLE, A WARRANTY OF ADEQUACY TO A PARTICULAR AIM, SHOULD IT BE EXPLICIT OR IMPLICIT. SOPRO SHALL NOT BE LIABLE FOR ANY PARTICULAR DAMAGE, INDIRECT, ACCIDENTAL OR CONSEQUENTIAL NOR FOR ANY DETERIORATION OR DATA LOSS, ON A CONTRACTUAL, NON-CONTRACTUAL OR OTHER BASIS.

The liability exclusion or limitation for direct or indirect damages does not apply under the regulatory or legal rules in force in some countries and the present exclusion may not apply to a purchaser in those countries.

10.2. IN CASE OF FAILURE

PROBLEMS	CAUSES	SOLUTIONS
With a video monitor		
No image displays on the screen and camera LEDs are not on.	• Defective power supply. •connection problem.	1. Check the power supply is correctly connected to the network and to the connection box. 2. Check the connecting cable is correctly connected to the handpiece and to the connection box.
Camera switches on but no image displays on the screen.	• Defective monitor power supply. • Connection problem.	1. Check the video cable is correctly connected to the monitor and to the connection box. 2. Check the monitor is switched on.
An image displays on the screen, but the quality is not satisfactory.	Monitor configuration.	Check the video monitor configuration is correctly set up (brightness, contrast, saturation, etc.)
An image displays, but it is not really clear (blurry)	• Rotating ring. • Hygienic protector.	1.Check the rotating ring is correctly positioned (Extra oral, Intra oral , macro). 2. Check the hygienic protector is correctly positioned on the camera head.
With a computer		
No image displays on the screen and the camera LEDs are not on.	• Defective power supply. •connection problem.	1. Vérifier que l'alimentation secteur est bien connectée au réseau et au boîtier de connexion. 2. Vérifier que le câble de liaison est bien connecté à la pièce à main et au boîtier de connexion.
Camera switches on but no image displays on the screen.	•Configuration •Driver • Connection problem.	1. Check the camera is correctly set up in Sopro Imaging (please, refer to Sopro Imaging user's manual). 2. Check the camera is correctly detected in the device driver (correct installation of its driver). 3. Check the USB cable coming from the DOCK is correctly connected to the HUB.
An image displays on the screen, but the quality is not satisfactory.	Camera driver configuration	Check the camera configuration in the Sopro Imaging software (brightness, contrast, saturation, etc.). Please refer to Sopro Imaging user's manual.
An image displays, but it is not really clear (blurry)	• Rotating ring. • Hygienic protector.	1. Check the rotating ring is correctly positioned (Extra oral, Intra oral , macro). 2. Check the hygienic protector is correctly positioned on the camera head.

The dental camera should be sent to us in its totality (connection box, handpiece, cables). Please enclose your packing list with a brief explanatory note relative to the noticed defect.

If some parts constituting the camera happen to break, it is imperative to send in everything so that the defective parts can be replaced.

When your material is returned to you, you should check its condition and note any reservations on the delivery slip, if necessary. You will then have 48 hours to confirm by registered letter sent to the carrier. After 48 hours, the carrier will be able to deny these reservations.

If any material we sent was damaged during transportation, the repair charges will be billed either to the carrier (if the reservations were made within the period) or to the recipient. Check as soon as possible that all material is correctly working.

11

TECHNICAL FEATURES

SOPRO 717 FIRST

- High sensitivity CCD 1/4".
- Resolution: (752 x 582) PAL; (768 x 494) NTSC.
- Definition: 470 lines.
- Sensitivity: 2 lux.
- Lighting: eight LEDs.
- Adjustment: three preset positions (Extra-oral, Intra-oral, Macro).
- Non-inverted image.
- Image freezing through SoproTouch or footswitch (option).
- Viewing angle: 70°.
- Cable length: 2.5m.
- Handpiece dimensions: L: 200; W: 28; H: 24 mm.
- Usable part dimensions: W: 13 x H: 8 mm.
- Handpiece weight: 75 g.

DOCK M_USB2

- Memory one and four images.
- Power supply: 115 V~ - 230 V~; 60 Hz - 50 Hz
- 1 PAL or NTSC video output.
- 1 PAL or NTSC S-video output.
- 1 digital USB output 2.0.
- Controller dimensions: L: 145; W: 130; H: 35 mm.
- Controller weight: 245 g.

DOCK MU_USB2

- Memory one and four images.
- Power supply: 24 V~; 50 Hz - 60 Hz.
- Consumption: 10 VA.
- 1 PAL or NTSC video output.
- 1 PAL or NTSC S-video output.
- 1 digital USB output 2.0.
- Controller dimensions: L: 100; W: 72; H: 36 mm.
- Dock weight: 190 g.

DOCK USB2

- Cable length: 3.5 m.
- 1 digital USB output 2.0.
- Controller dimensions: L: 100; l: 46; H: 20 mm.
- Dock weight: 165 g.

- BF-type applied part.
- Operating temperature: +10°C to +40°C.
- Storage temperature: -20°C to +45°C.
- Relative humidity: 10 % to 90 %.
- Atmospheric pressure: 900 hPa to 1,060 hPa.
- Continuous service.
- Not protected against water chutes (IPX0).
- Not adapted to the use in presence of an anaesthetic mixture flammable with air, oxygen or dinitrogen monoxide.
- Complies with the European directive 93/42/EEC.
- Complies with EC60601-1 standard.
- Complies with IEC60601-2-18 standard.
- Complies with UL 60601-1 et CSA 60601-1 standard.

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